

ATTACHMENT I - RFA APPROVAL FORM

AI
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OCT 7 1996
RCRA PERMITTING & COMPLIANCE BRANCH
(RPCB)

Facility Name SKF Industries
Facility Location St. Louis, MO
EPA ID Number MOT 300 010 345
Date RFA Approved September 25, 1996

Is RFI needed? Y (N)
Can CMS be imposed now? Y (N)
Are IM needed? Y (N)

If explanations needed, provide here:

Number of SWMUs 0 and/or AOCs 0 requiring corrective action.

Priority for Corrective Action
(Circle One)

(1)	2	3	4	5	6	7	8	9	10
Low-----			----->Medium-----				----->High		
(Exposure Potential)			(Potential Exposure)				(Actual Exposure)		

Choice of oversight strategy (based on severity of environmental harm, characteristics of owner/operator, and level of concern)

No further action necessary*

- _____ Voluntary: without a permit or order
- _____ Quasi-Voluntary: minimal oversight, no EPA plan approvals
- _____ Briefing/Audit: limited oversight, progress briefings only
- _____ Hybrid: more oversight, plan reviews, site visits
- _____ Full: intensive oversight, all plans reviewed, regular site visits



R00038125
RCRA Records Center

If explanations needed, please provide:

* Further corrective action does not appear necessary at this time since contaminant releases were not indicated by the RFA sampling results nor is there other substantial evidence of releases. No further corrective action is recommended. Facility should be considered for removal from the corrective action universe

Signature

Date

9/30/99

MISSOURI DEPARTMENT OF NATURAL RESOURCES



FINAL RCRA FACILITY ASSESSMENT REPORT ADDENDUM

SKF INDUSTRIES, INC.
ST. LOUIS, MISSOURI
EPA ID NO. MOT 300 010 345

PREPARED BY:

HAZARDOUS WASTE PROGRAM

SEPTEMBER 1996

RECEIVED

OCT 1 1996

RCRA PERMITTING & COMPLIANCE BRANCH
(RPCB)

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1.0 INTRODUCTION

This addendum has been prepared by the Missouri Department of Natural Resources' (MDNR) Hazardous Waste Program (HWP) as a supplement to the attached SKF Industries draft Environmental Priorities Initiative/Preliminary Assessment (EPI/PA) report dated April 13, 1992. This addendum was developed to more closely reflect current knowledge of site conditions in addition to the environmental data contained in the EPI/PA report. This final addendum consists of a RCRA Facility Sampling Visit (SV) report, analytical results, narrative discussions, and conclusions/recommendations resulting from the assessment of Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs). The SV element is an integral part of this RCRA Facility Assessment (RFA) and was necessary to evaluate actual and/or potential release(s) of hazardous constituents to the environment.

2.0 OBJECTIVES AND APPROACH

In general, the main objective of performing the SV was to complete the RCRA Facility Assessment (RFA) as part of the RCRA Corrective Action process by identifying release(s) of hazardous constituents from SWMUs/AOCs through the collection and analysis of selected environmental samples. During the review of the EPI/PA report which was previously prepared by EPA's contractor, the MDNR identified potential releases from certain SWMUs/AOCs. As some of the EPI/PA report findings related to potential/actual releases from SWMUs/AOCs were inconclusive, the MDNR developed draft recommendations for sampling and analysis of selected SWMUs/AOCs. The MDNR conducted a site reconnaissance visit (SRV) after which the draft sampling recommendations were revised and finalized. A SV was then implemented in accordance with the final sampling recommendations as a means to assess whether or not a release(s) of hazardous constituents to the environment had occurred or was occurring from certain SWMUs/AOCs described in the draft EPI/PA report.

This RFA final addendum is based on the findings of the draft EPI/PA report, file review, site reconnaissance visit, sampling visit, and the results of sample analyses. Unless specifically referenced, all observations contained in this report were made during the SRV and SV. ~~Based on the findings of the final RFA, further corrective action may be required, including a RCRA Facility Investigation (RFI) and/or Corrective Measure Study (CMS).~~

*Deleted
per Fuad
10-8-96*

3.0 SITE RECONNAISSANCE VISIT

Following review of the EPI/PA report and prior to the SV, the MDNR developed draft sampling recommendations. Subsequently, the MDNR conducted a SRV to assess current site conditions, locate and evaluate the individual SWMUs/AOCs for which sampling appeared necessary, evaluate potential hazards associated with sampling and gather up-to-date sampling information. The HWP's draft sampling recommendations were coordinated with the EPA and MDNR's Environmental Services Program (ESP) prior to the SRV.

At the time of the February 22, 1996, SRV, it was observed that the site underwent major development as the north and east portions of the property are currently occupied by residential town houses and several former SKF buildings are utilized by commercial businesses. All SWMUs/AOCs with the exception of AOC #2 were eliminated as a result of demolition of several SKF buildings. The hazardous waste drum storage area has also been demolished, except for the concrete floor of this area which is still in place next to the east side of building #4. Mr. John DiGregorio of Marconi Investment, current owner of site, indicated no hazardous wastes and/or facility-related manufacturing equipment remained on-site since the purchase of the site, although no formal closure has been implemented by SKF. Formal closure was not implemented due to allegations by SKF that originally a protective filer of a Part A permit application and the fact that they allegedly never stored hazardous waste in excess of ninety days. The area of the previously demolished buildings is currently covered with asphalt pavement. Detailed information regarding the location and number of demolished buildings is found in the draft EPI/PA report. Due to the changes in ownership of the facility, demolition of several buildings, and redevelopment of the site, little information was available regarding the exact location of past potential releases and the conditions/redevelopment of the facility since SKF ceased operations in 1986.

Based on the SRV, the following bullets briefly summarize the current status of individual SWMUs/AOCs since preparation of the draft EPI/PA report.

- SWMUs #1, #2, #4, #5, and AOC #1, #3, and #4 were removed or eliminated as a result of demolition of the buildings and associated appurtenances and decommissioning of associated manufacturing equipment. The entire facility was further assessed relative to evidence of actual/potential release(s) during the SRV.

- AOC #2 is remained with no visible evidence of hazardous constituent release(s) and on such indication in the EPI/PA report.

Upon completion of the SRV, the draft sampling recommendations were revised, finalized and sent to EPA, ESP and the facility prior to the SV. The facility was asked to locate underground utilities and to provide access to the areas where sampling was anticipated and was offered the opportunity to split samples with MDNR.

4.0 SAMPLING VISIT

On arriving at the site on May 21, 1996, the MDNR explained the purpose and objectives of the SV to Mr. John DeGrigario. The MDNR then proceeded to collect five samples, including one field duplicate, one field blank, and one trip blanks sample for quality assurance/quality control purposes. No samples were split with MDNR during the SV. All sampling activities followed EPA's guidance, analytical methods (i.e., SW-846) and ESP's Standard Operating Procedures. Sampling was conducted at those locations described in the final sampling recommendations prepared by the HWP. Analyses were also performed in accordance with these recommendations. A complete sampling report consisting of sampling methods, observations and data summary can be found in Appendix B. The field activity logbook notes can be found in Appendix D. The sampling report findings relative to contaminant levels are discussed in the following section.

5.0 DATA SUMMARY

All samples collected at the SKF site were analyzed by the ESP's laboratory. The analytical results and laboratory review of data quality are discussed below. Further information regarding sample descriptions and numbers may be found in the laboratory report contained in Appendix B.

I. Data Quality

All samples were appropriately collected, containerized, labelled, preserved, transported, and were analyzed within applicable holding times. All samples were transmitted to the ESP's laboratory under appropriate chain-of-custody procedures. Analytical data was within quality control limit requirements for precision, accuracy, and completeness.

II. Analytical Data

Conclusions as to the presence/absence of actual/potential release(s) from individual SWMUs/AOCs is based on comparison with site-specific background chemical concentrations, statistical analysis of chemical concentrations, and/or comparison with other levels contained in scientific literature or regulatory guidance, as appropriate.

SWMU #3

The soil samples collected from the former drum storage area (SWMU #3) at one foot to two feet below ground surface (bgs) were analyzed for volatile organic aromatics (VOAs), semi-volatile organic compounds (SVOCs) and cyanide. Analytical results indicates no detection of VOAs, SVOCs, or cyanide above method detection limits, except di-n-butylphthalate which was detected at concentrations of 100/140 ug/kg. No other contaminants were detected above method detection limits in any of the samples collected from SWMU #3. The di-n-butylphthalate concentrations appear insignificant with respect to potential concentrations at levels of concern when compared to health based criteria and/or impact to the overall validity of the analytical results. Although di-n-butylphthalate was not detected in any of the QA/QC samples, it is a common laboratory contaminant and may be associated with the plastic containers used in the laboratory. Di-n-butylphthalate is a plasticizer and has a tendency to leach from plastic containers under certain conditions.

QA/QC Samples

Analysis of the blank samples indicated no detection of contaminants above method detection limits. Sampling and analysis information presented in this report is therefore considered valid for the purpose of release determination.

6.0 RFA CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented in the final EPI/PA report, and the analytical results obtained from the sampling visit as contained in Appendix B, no evidence of a release(s) from SWMU #3 is apparent with the exception of AOC 2. All other SWMUs/AOCs of this facility have been eliminated as a result of previous site activities. Hence, no further investigation of any SWMUs/AOCs appears warranted.

The conclusions and recommendations contained herein supersede those presented in the draft EPI/PA dated April 13, 1992.

REFERENCES

1. Personal communication, John DiGregorio, current owner, information provided during SRV February 22, 1996, and SV May 21, 1996.
2. U.S. EPA Region III Risk-Based Concentration Table, April 19, 1996, from Roy L. Smith, Ph.D., Office of RCRA, Technical & Program Support Branch (3HW70).
3. Missouri Department of Health Proposed Any-Use Soil Levels for Residential Soils, May 2, 1996.

APPENDIX A

HWP SAMPLING RECOMMENDATIONS

**FINAL SAMPLING RECOMMENDATIONS FOR
SKF INDUSTRIES, INC.
ST. LOUIS, MISSOURI
MOT300010345**

TABLE 1: SWMUs/AOCs, SAMPLING RATIONALE, AND POTENTIAL CONTAMINANTS OF CONCERN

SWMU/AOC NO.	SWMUs/PROBLEMS	SAMPLING RATIONALE	POTENTIAL CONTAMINANTS OF CONCERN
3	Former drum storage area east of Bldg. Nos. 25 and 4	Data indicates of past release of kerosene prior to 1986.	Kerosene, 1,1,1-TCA, 1,1,1-TCE, cyanide

TABLE 2: SAMPLING APPROACH AND METHOD

SWMU/AOC NO.	SWMU	SAMPLING APPROACH/LOCATIONS	NUMBER OF SAMPLES	REQUESTED ANALYTICAL PARAMETERS/METHOD
3	Former drum storage area east of Bldg. Nos. 25 and 4	Collect subsurface soil samples at areas of highest likelihood of release (2 sample locations)	2 subsurface soil samples (12" to 24")	VOA: GC/MS Method 8260 Semivolatiles: GC/MS Method 8270 Cyanide: Method 9010
Total Samples: 2 VOA, 2 BN, 2 AE, and 2 cyanide soil samples				

Semi-volatiles include: Base Neutrals (BN) and Acid Extractables (AE)

TABLE 3: FIELD QUALITY CONTROL SAMPLE SUMMARY

QC Sample	FREQUENCY/PROJECTED QUANTITY	ANALYSIS
FIELD DUPLICATE	One soil sample taken from SWMU No. 3	VOA, BN, AE, Cyanide
EQUIPMENT BLANK	One per day, per equipment type	VOA, BN, AE, Cyanide
FIELD BLANK	One per day	VOA
TRIP BLANK	One per cooler containing samples for VOC analyses	VOA
Total QC Samples: 4 VOA, 2 BN, 2 AE, and 2 cyanide soil samples		

Grand Total Samples and Analyses/Matrix:

6 VOA (3 soil/3 water)
4 BN (3 soil/1 water)
4 AE (3 soil/1 water)
4 Cyanide (3 soil/1 water)

APPENDIX B

ESP SAMPLING VISIT REPORT INCLUDING ANALYTICAL RESULTS

R E C E I V E D

JUL 23 1996

HAZARDOUS WASTE PROGRAM
MISSOURI DEPARTMENT OF
NATURAL RESOURCES

HAZARDOUS WASTE SITE SAMPLING REPORT

**SKF Industries, Inc.
RCRA Facility Assessment
St. Louis, Missouri**

May 21, 1996

Prepared For:

Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program

Prepared By:

Missouri Department of Natural Resources
Division of Environmental Quality
Environmental Services Program

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AttachmentsLocated at end of report

Appendix A - Site Map

Appendix B - Analytical Results

1.0 Introduction

The Missouri Department of Natural Resources (MDNR), Hazardous Waste Program (HWP), requested the MDNR, Environmental Services Program (ESP), to collect subsurface soil samples from a former SKF Industries, Inc. facility in St. Louis, Missouri.

Environmental Specialists Alan Reinkemeyer and Joe Boland performed the sampling investigation on May 21, 1996. Environmental Engineer Fuad Marmash from the Hazardous Waste Program was present to identify locations for sample collection and to provide background information.

This sampling investigation was conducted as part of the MDNR's agreement with the U.S. Environmental Protection Agency to conduct RCRA Facility Assessments (RFA) at regulated facilities. The HWP will incorporate the analytical data and other information resulting from the sampling investigation into the final RFA report. The final report will then be used to formulate recommendations for further action if needed.

2.0 Site Description and History

2.1 Site Location

The former SKF Industries facility is located at 2320 Marconi Avenue, in St. Louis, Missouri.

The specific locations where samples were collected can be found on the site map which is attached as Appendix A.

2.2 Site Description

The former SKF facility is now a complex of buildings that occupy approximately one city block on Marconi Street between Bischoff Avenue and the railroad tracks bordering the property to the southeast.

This site is surrounded by primarily residential housing to the north, west and the south, with some retail businesses located nearby.

2.3 Site History/Contaminants of Concern

The former SKF facility began operations in 1918. The facility operated as a manufacturer of cast iron piston rings, transmission seal rings, turbocharger rings, and other mechanical parts for automotive and small engine applications.

Activities at the site included a foundry operation, fabrication and machining, electroplating and degreasing. The facility ceased operation in 1986 and employed approximately 100 people at that time.

The purpose of this sampling investigation was to determine if there has been a release of volatile and semi-volatile organic compounds and cyanide to the environment.

3.0 Methods

3.1 Field Procedures

Subsurface soil samples were collected with the use of a truck-mounted Geoprobe unit. It was used to advance a dedicated 2.5-inch diameter stainless steel macro-core sampler to the desired depth. A carbide-tipped hammerdrill bit was used to bore through areas covered with concrete. A dedicated, disposable acetate sleeve which lined the macro-core sampler was used for each boring.

Once the sampler was retrieved from a boring, the cutting shoe was unscrewed from the end and the acetate sleeve containing the soil core was removed. This aided in selecting where the sample was to be collected. The acetate sleeve was then cut open and a sample was collected from the desired depth.

In order to disturb the soil as little as possible when collecting for the volatile organics, a 1-ounce glass jar was pushed directly into the soil core. A stainless steel spoon was then used to trim the soil at the top of the sample container in order to leave zero headspace. A Teflon-lined lid was then placed onto the container.

When collecting for semi-volatiles or total cyanide, a stainless steel spoon was used to place the soil directly into a 9-ounce glass jar. A Teflon-lined lid was then placed onto the container.

ESP personnel wore clean disposable nitrile gloves for each separate sample collected.

The decontamination of the macro-core samplers and the cutting shoes was performed after returning to the ESP in Jefferson City. The gross contamination was removed by scrubbing with a brush in an Alconox and water solution. This was followed by a deionized water rinse, a hydrochloric acid rinse, another deionized water

rinse, a methanol rinse, and finally a hexane rinse. The equipment was then allowed to air dry.

3.2 Chain-of-Custody

All samples collected by ESP personnel received a numbered tag and were placed on ice in a cooler. A chain-of-custody form was then completed which recorded the sample tag numbers assigned to each sample, the description of the location of the sample collected, the time and date collected, and the parameters to be analyzed.

ESP personnel maintained custody of the samples by hand carrying them to the Environmental Services Program in Jefferson City where they were relinquished to laboratory personnel.

3.3 Analyses Requested

Samples were submitted to the state's environmental laboratory within the Environmental Services Program to be analyzed for various parameters to include volatile and semi-volatile organic compounds and total cyanide.

3.4 Quality Assurance/Quality Control (QA/QC)

All samples were analyzed in accordance with the general requirements and standard operating procedures of the Fiscal Year 1996 Generator/TSD Quality Assurance Project Plan.

A soil field blank for volatile organic compounds was included among the rest of the sample containers. This blank was opened in the field and placed in the work area. It was identified as 96-1824.

A soil trip blank for volatile organic compounds was included among the rest of the sample containers. This blank was not opened in the field. It was identified as 96-1823.

One duplicate sample was collected in accordance with ESP QA/QC protocol. The duplicate was collected from the former drum storage area southwest of the building, also known as Solid Waste Management Unit (SWMU) #3, and identified as sample 96-1826.

4.0 Investigation Derived Wastes

All personal protective equipment and spent disposable sampling equipment generated by ESP personnel were containerized and properly disposed at the laboratory in Jefferson City.

5.0 Observations

The weather on May 21, 1996, was sunny, with temperatures in the mid-80s, and winds at 5-10 miles per hour.

Sample 96-1825 was a soil grab collected at a depth of 1'-2' from the former drum storage area southwest of the main building, also known as SWMU #3. It was a brown and gray silty clay.

Sample 96-1826 was a soil grab collected as a duplicate of sample 96-1825. It was a brown and gray silty clay.

Sample 96-1827 was a soil grab collected at a depth of 1'-2' from beneath the concrete pad of the former drum storage area southwest of the main building. It was a brown gray clay.

6.0 Data Reporting

Please refer to Appendix B for analytical results of samples collected.

Hazardous Waste Site Sampling Report
Former SKF Foundry RFA
May 21, 1996
Page 5

Submitted by:

for Joe Boland
Joe K. Boland
Environmental Specialist
Superfund/RCRA Unit
Environmental Services Program

Date:

July 23, 1996

Approved by:

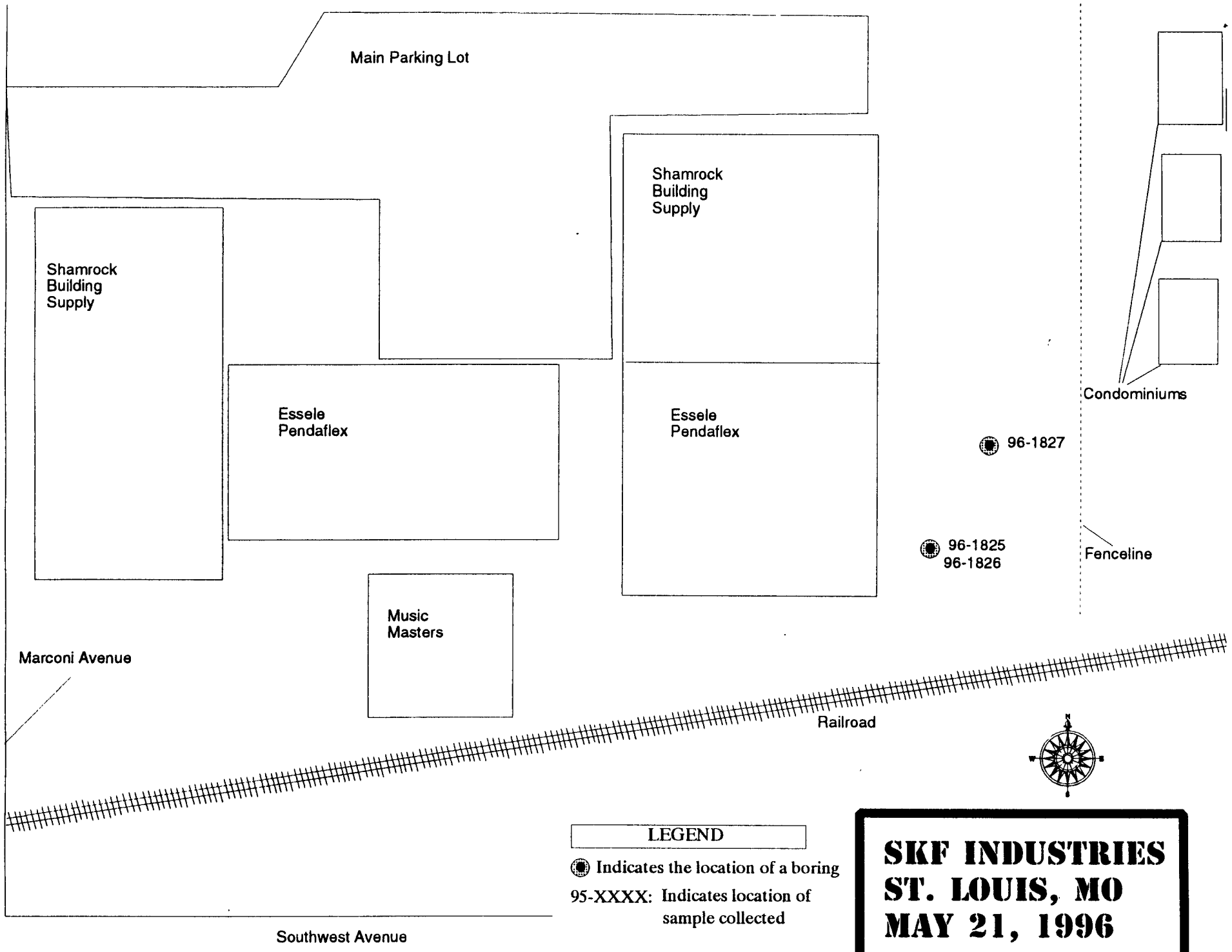
for Earl H. Pabst
James H. Long
Director
Environmental Services Program

JHL:jbc

c: Richard Nussbaum, HWP

APPENDIX A

Site Map
SKF Industries, Inc. RFA
St. Louis, MO
May 21, 1996



APPENDIX B

Analytical Results
SKF Industries, Inc. RFA
St. Louis, MO
May 21, 1996

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Michael A. LeCompte, Governor • David A. Shorr, Director
 DIVISION OF ENVIRONMENTAL QUALITY
 P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 96-1823
 Lab Number: 96-D1300

Reported To: JOE BOLAND	Report Date: 7/16/96
Affiliation: ESP	Date Collected: 5/21/96
Project Code: 3531/3000	Date Received: 5/23/96
Sample Collected by: JOE BOLAND, ESP	
Sampling Location: SKF FOUNDRY, ST. LOUIS, MO	
Sample Description: TRIP BLANK SOIL	

Analysis Performed	Results	Analyzed	Method
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VOA Results:

Chloromethane	< 25.0	ug/kg	7/ 3/96 8260
Vinyl Chloride	< 25.0	ug/kg	7/ 3/96 8260
Bromomethane	< 25.0	ug/kg	7/ 3/96 8260
Chloroethane	< 25.0	ug/kg	7/ 3/96 8260
1,1-Dichloroethene	< 25.0	ug/kg	7/ 3/96 8260
Acetone	< 100	ug/kg	7/ 3/96 8260
Carbon Disulfide	< 25.0	ug/kg	7/ 3/96 8260
Methylene Chloride	Not Analyzed		7/ 3/96 8260
Methyl Tertiary Butyl Eth	< 25.0	ug/kg	7/ 3/96 8260
trans-1,2-Dichloroethene	< 25.0	ug/kg	7/ 3/96 8260
1,1-Dichloroethane	< 25.0	ug/kg	7/ 3/96 8260
2-Butanone	< 100	ug/kg	7/ 3/96 8260
cis-1,2-Dichloroethene	< 25.0	ug/kg	7/ 3/96 8260
Chloroform	< 25.0	ug/kg	7/ 3/96 8260
1,1,1-Trichloroethane	< 25.0	ug/kg	7/ 3/96 8260
Carbon Tetrachloride	< 25.0	ug/kg	7/ 3/96 8260
Benzene	< 25.0	ug/kg	7/ 3/96 8260
1,2-Dichloroethane	< 25.0	ug/kg	7/ 3/96 8260
Trichloroethene	< 25.0	ug/kg	7/ 3/96 8260
1,2-Dichloropropane	< 25.0	ug/kg	7/ 3/96 8260
Bromodichloromethane	< 25.0	ug/kg	7/ 3/96 8260
2-Hexanone	< 100	ug/kg	7/ 3/96 8260
Trans-1,3-Dichloropropene	< 25.0	ug/kg	7/ 3/96 8260
Toluene	< 25.0	ug/kg	7/ 3/96 8260
CIS-1,3-Dichloropropene	< 25.0	ug/kg	7/ 3/96 8260

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Lab Number: 96-D1300

Sample Number: 96-1823

July 16, 1996

Analysis Performed	Results		Analyzed	Method
1,1,2-Trichloroethane	< 25.0	ug/kg	7/ 3/96	8260
4-Methyl-2-Pentanone	< 100	ug/kg	7/ 3/96	8260
Tetrachloroethene	< 25.0	ug/kg	7/ 3/96	8260
Dibromochloromethane	< 25.0	ug/kg	7/ 3/96	8260
Chlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
Ethylbenzene	< 25.0	ug/kg	7/ 3/96	8260
Total Xylenes	< 25.0	ug/kg	7/ 3/96	8260
Styrene	< 25.0	ug/kg	7/ 3/96	8260
Bromoform	< 25.0	ug/kg	7/ 3/96	8260
1,1,2,2-Tetrachloroethane	< 25.0	ug/kg	7/ 3/96	8260
1,3-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
1,4-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
1,2-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.


James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: KATHY FLIPPIN, HWP

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

McCombs, Governor • David A. Shott, Director

DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 96-1824
Lab Number: 96-D1301

Reported To: JOE BOLAND
Affiliation: ESP
Project Code: 3531/3000

Report Date: 7/16/96
Date Collected: 5/21/96
Date Received: 5/23/96

Sample Collected by: JOE BOLAND, ESP
Sampling Location: SKF FOUNDRY, ST. LOUIS, MO
Sample Description: FIELD BLANK SOIL

Analysis Performed	Results	Analyzed	Method
--------------------	---------	----------	--------

VOA Results:

Chloromethane	< 25.0	ug/kg	7/ 5/96 8260
Vinyl Chloride	< 25.0	ug/kg	7/ 5/96 8260
Bromomethane	< 25.0	ug/kg	7/ 5/96 8260
Chloroethane	< 25.0	ug/kg	7/ 5/96 8260
1,1-Dichloroethene	< 25.0	ug/kg	7/ 5/96 8260
Acetone	< 100	ug/kg	7/ 5/96 8260
Carbon Disulfide	< 25.0	ug/kg	7/ 5/96 8260
Methylene Chloride	< 25.0	ug/kg	7/ 5/96 8260
Methyl Tertiary Butyl Eth	< 25.0	ug/kg	7/ 5/96 8260
trans-1,2-Dichloroethene	< 25.0	ug/kg	7/ 5/96 8260
1,1-Dichloroethane	< 25.0	ug/kg	7/ 5/96 8260
2-Butanone	< 100	ug/kg	7/ 5/96 8260
cis-1,2-Dichloroethene	< 25.0	ug/kg	7/ 5/96 8260
Chloroform	< 25.0	ug/kg	7/ 5/96 8260
1,1,1-Trichloroethane	< 25.0	ug/kg	7/ 5/96 8260
Carbon Tetrachloride	< 25.0	ug/kg	7/ 5/96 8260
Benzene	< 25.0	ug/kg	7/ 5/96 8260
1,2-Dichloroethane	< 25.0	ug/kg	7/ 5/96 8260
Trichloroethene	< 25.0	ug/kg	7/ 5/96 8260
1,2-Dichloropropane	< 25.0	ug/kg	7/ 5/96 8260
Bromodichloromethane	< 25.0	ug/kg	7/ 5/96 8260
2-Hexanone	< 100	ug/kg	7/ 5/96 8260
Trans-1,3-Dichloropropene	< 25.0	ug/kg	7/ 5/96 8260
Toluene	< 25.0	ug/kg	7/ 5/96 8260
CIS-1,3-Dichloropropene	< 25.0	ug/kg	7/ 5/96 8260

Page 2
Lab Number: 96-D1301
Sample Number: 96-1824
July 16, 1996

Analysis Performed	Results		Analyzed	Method
1,1,2-Trichloroethane	< 25.0	ug/kg	7/ 5/96	8260
4-Methyl-2-Pentanone	< 100	ug/kg	7/ 5/96	8260
Tetrachloroethene	< 25.0	ug/kg	7/ 5/96	8260
Dibromochloromethane	< 25.0	ug/kg	7/ 5/96	8260
Chlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
Ethylbenzene	< 25.0	ug/kg	7/ 5/96	8260
Total Xylenes	< 25.0	ug/kg	7/ 5/96	8260
Styrene	< 25.0	ug/kg	7/ 5/96	8260
Bromoform	< 25.0	ug/kg	7/ 5/96	8260
1,1,2,2-Tetrachloroethane	< 25.0	ug/kg	7/ 5/96	8260
1,3-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
1,4-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
1,2-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.


James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: KATHY FLIPPIN, HWP

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

McCarthan Governor • David A. Shorr Director
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 96-1825
Lab Number: 96-D1302

Reported To: JOE BOLAND
Affiliation: ESP
Project Code: 3531/3000

Report Date: 7/16/96
Date Collected: 5/21/96
Date Received: 5/23/96

Sample Collected by: JOE BOLAND, ESP
Sampling Location: SKF FOUNDRY, ST. LOUIS, MO
Sample Description: GRAB, SOIL FROM FORMER DRUM STORAGE
AREA, SOUTHWEST AREA OF BUILDING
1-2' DEEP

Analysis Performed	Results		Analyzed	Method
Cyanide in Soil	< 250	ug/kg	6/ 5/96	9010
Comment: Analyzed by EMSL				
VOA Results:				
Chloromethane	< 25.0	ug/kg	7/ 3/96	8260
Vinyl Chloride	< 25.0	ug/kg	7/ 3/96	8260
Bromomethane	< 25.0	ug/kg	7/ 3/96	8260
Chloroethane	< 25.0	ug/kg	7/ 3/96	8260
1,1-Dichloroethene	< 25.0	ug/kg	7/ 3/96	8260
Acetone	< 100	ug/kg	7/ 3/96	8260
Carbon Disulfide	< 25.0	ug/kg	7/ 3/96	8260
Methylene Chloride	Not Analyzed		7/ 3/96	8260
Methyl Tertiary Butyl Eth	< 25.0	ug/kg	7/ 3/96	8260
trans-1,2-Dichloroethene	< 25.0	ug/kg	7/ 3/96	8260
1,1-Dichloroethane	< 25.0	ug/kg	7/ 3/96	8260
2-Butanone	< 100	ug/kg	7/ 3/96	8260
cis-1,2-Dichloroethene	< 25.0	ug/kg	7/ 3/96	8260
Chloroform	< 25.0	ug/kg	7/ 3/96	8260
1,1,1-Trichloroethane	< 25.0	ug/kg	7/ 3/96	8260
Carbon Tetrachloride	< 25.0	ug/kg	7/ 3/96	8260
Benzene	< 25.0	ug/kg	7/ 3/96	8260
1,2-Dichloroethane	< 25.0	ug/kg	7/ 3/96	8260
Trichloroethene	< 25.0	ug/kg	7/ 3/96	8260
1,2-Dichloropropane	< 25.0	ug/kg	7/ 3/96	8260
Bromodichloromethane	< 25.0	ug/kg	7/ 3/96	8260

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Lab Number: 96-D1302

Sample Number: 96-1825

July 16, 1996

Analysis Performed	Results		Analyzed	Method
2-Hexanone	< 100	ug/kg	7/ 3/96	8260
Trans-1,3-Dichloropropene	< 25.0	ug/kg	7/ 3/96	8260
Toluene	< 25.0	ug/kg	7/ 3/96	8260
CIS-1,3-Dichloropropene	< 25.0	ug/kg	7/ 3/96	8260
1,1,2-Trichloroethane	< 25.0	ug/kg	7/ 3/96	8260
4-Methyl-2-Pentanone	< 100	ug/kg	7/ 3/96	8260
Tetrachloroethene	< 25.0	ug/kg	7/ 3/96	8260
Dibromochloromethane	< 25.0	ug/kg	7/ 3/96	8260
Chlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
Ethylbenzene	< 25.0	ug/kg	7/ 3/96	8260
Total Xylenes	< 25.0	ug/kg	7/ 3/96	8260
Styrene	< 25.0	ug/kg	7/ 3/96	8260
Bromoform	< 25.0	ug/kg	7/ 3/96	8260
1,1,2,2-Tetrachloroethane	< 25.0	ug/kg	7/ 3/96	8260
1,3-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
1,4-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
1,2-Dichlorobenzene	< 25.0	ug/kg	7/ 3/96	8260
BNA Results:				
Phenol	< 100	ug/kg	6/27/96	8270
bis(-2-Chloroethyl)Ether	< 100	ug/kg	6/27/96	8270
2-Chlorophenol	< 250	ug/kg	6/27/96	8270
1,3-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
1,4-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
N-nitrosodimethylamine	< 100	ug/kg	6/27/96	8270
1,2-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
2-Methylphenol	< 100	ug/kg	6/27/96	8270
bis(2-Chloroisopropyl)Eth	< 100	ug/kg	6/27/96	8270
4-Methylphenol	< 100	ug/kg	6/27/96	8270
N-Nitro-Di-n-Propylamine	< 100	ug/kg	6/27/96	8270
Hexachloroethane	< 100	ug/kg	6/27/96	8270
Nitrobenzene	< 100	ug/kg	6/27/96	8270
Isophorone	< 100	ug/kg	6/27/96	8270
2-Nitrophenol	< 100	ug/kg	6/27/96	8270
2,4-Dimethylphenol	< 100	ug/kg	6/27/96	8270
Benzoic Acid	< 100	ug/kg	6/27/96	8270
bis(2-Chloroethoxy)Methan	< 100	ug/kg	6/27/96	8270
2,4-Dichlorophenol	< 100	ug/kg	6/27/96	8270
1,2,4-Trichlorobenzene	< 100	ug/kg	6/27/96	8270
Naphthalene	< 100	ug/kg	6/27/96	8270
4-Chloroaniline	< 250	ug/kg	6/27/96	8270
Hexachlorobutadiene	< 100	ug/kg	6/27/96	8270
4-Chloro-3-Methylphenol	< 250	ug/kg	6/27/96	8270
2-Methylnaphthalene	< 100	ug/kg	6/27/96	8270
Hexachlorocyclopentadiene	< 100	ug/kg	6/27/96	8270
2,4,6-Trichlorophenol	< 100	ug/kg	6/27/96	8270
2,4,5-Trichlorophenol	< 250	ug/kg	6/27/96	8270
2-Chloronaphthalene	< 100	ug/kg	6/27/96	8270
2-Nitroaniline	< 250	ug/kg	6/27/96	8270

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Lab Number: 96-D1302

Sample Number: 96-1825

July 16, 1996

Analysis Performed	Results		Analyzed	Method
Dimethylphthalate	< 100	ug/kg	6/27/96	8270
Acenaphthylene	< 100	ug/kg	6/27/96	8270
2,6-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
3-Nitroaniline	< 250	ug/kg	6/27/96	8270
Acenaphthene	< 100	ug/kg	6/27/96	8270
2,4-Dinitrophenol	< 250	ug/kg	6/27/96	8270
4-Nitrophenol	< 250	ug/kg	6/27/96	8270
Dibenzofuran	< 100	ug/kg	6/27/96	8270
2,4-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
Diethylphthalate	< 100	ug/kg	6/27/96	8270
4-Chlorophenyl-phenylethe	< 100	ug/kg	6/27/96	8270
Fluorene	< 100	ug/kg	6/27/96	8270
4-Nitroaniline	< 250	ug/kg	6/27/96	8270
4,6-Dinitro-2-Methylpheno	< 250	ug/kg	6/27/96	8270
N-Nitrosodiphenylamine	< 100	ug/kg	6/27/96	8270
4-Bromophenyl-phenylether	< 100	ug/kg	6/27/96	8270
Hexachlorobenzene	< 100	ug/kg	6/27/96	8270
Pentachlorophenol	< 250	ug/kg	6/27/96	8270
Phenanthrene	< 100	ug/kg	6/27/96	8270
Anthracene	< 100	ug/kg	6/27/96	8270
Di-n-Butylphthalate	140	ug/kg	6/27/96	8270
Fluoranthene	< 100	ug/kg	6/27/96	8270
Pyrene	< 100	ug/kg	6/27/96	8270
Butylbenzylphthalate	< 100	ug/kg	6/27/96	8270
3-3'-Dichlorobenzidine	< 250	ug/kg	6/27/96	8270
Benzo(a)anthracene	< 100	ug/kg	6/27/96	8270
Chrysene	< 100	ug/kg	6/27/96	8270
bis(2-ethylhexyl)phthalat	< 100	ug/kg	6/27/96	8270
Di-n-Octylphthalate	< 100	ug/kg	6/27/96	8270
Benzo(b)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(k)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(a)pyrene	< 100	ug/kg	6/27/96	8270
Indeno(1,2,3-cd)pyrene	< 100	ug/kg	6/27/96	8270
Dibenz(a,h)anthracene	< 100	ug/kg	6/27/96	8270
Benzo(g,h,i)perylene	< 100	ug/kg	6/27/96	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.


James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: KATHY FLIPPIN, HWP

STATE OF MISSOURI
 DEPARTMENT OF NATURAL RESOURCES

McGovern Governor • David A. Shott Director
 DIVISION OF ENVIRONMENTAL QUALITY
 P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 96-1826
 Lab Number: 96-D1303

Reported To: JOE BOLAND
 Affiliation: ESP
 Project Code: 3531/3000

Report Date: 7/16/96
 Date Collected: 5/21/96
 Date Received: 5/23/96

Sample Collected by: JOE BOLAND, ESP
 Sampling Location: SKF FOUNDRY, ST. LOUIS, MO
 Sample Description: GRAB, SOIL FROM FORMER DRUM STORAGE
 AREA, SOUTHWEST AREA OF BUILDING
 1-2' DEEP (DUPLICATE)

Analysis Performed	Results	Analyzed	Method
Cyanide in Soil	< 250 ug/kg	6/ 5/96	9010
Comment: Analyzed by EMSL			
VOA Results:			
Chloromethane	< 25.0 ug/kg	7/ 5/96	8260
Vinyl Chloride	< 25.0 ug/kg	7/ 5/96	8260
Bromomethane	< 25.0 ug/kg	7/ 5/96	8260
Chloroethane	< 25.0 ug/kg	7/ 5/96	8260
1,1-Dichloroethene	< 25.0 ug/kg	7/ 5/96	8260
Acetone	< 100 ug/kg	7/ 5/96	8260
Carbon Disulfide	< 25.0 ug/kg	7/ 5/96	8260
Methylene Chloride	< 25.0 ug/kg	7/ 5/96	8260
Methyl Tertiary Butyl Eth	< 25.0 ug/kg	7/ 5/96	8260
trans-1,2-Dichloroethene	< 25.0 ug/kg	7/ 5/96	8260
1,1-Dichloroethane	< 25.0 ug/kg	7/ 5/96	8260
2-Butanone	< 100 ug/kg	7/ 5/96	8260
cis-1,2-Dichloroethene	< 25.0 ug/kg	7/ 5/96	8260
Chloroform	< 25.0 ug/kg	7/ 5/96	8260
1,1,1-Trichloroethane	< 25.0 ug/kg	7/ 5/96	8260
Carbon Tetrachloride	< 25.0 ug/kg	7/ 5/96	8260
Benzene	< 25.0 ug/kg	7/ 5/96	8260
1,2-Dichloroethane	< 25.0 ug/kg	7/ 5/96	8260
Trichloroethene	< 25.0 ug/kg	7/ 5/96	8260
1,2-Dichloropropane	< 25.0 ug/kg	7/ 5/96	8260
Bromodichloromethane	< 25.0 ug/kg	7/ 5/96	8260

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Lab Number: 96-D1303

Sample Number: 96-1826

July 16, 1996

Analysis Performed	Results		Analyzed	Method
2-Hexanone	< 100	ug/kg	7/ 5/96	8260
Trans-1,3-Dichloropropene	< 25.0	ug/kg	7/ 5/96	8260
Toluene	< 25.0	ug/kg	7/ 5/96	8260
CIS-1,3-Dichloropropene	< 25.0	ug/kg	7/ 5/96	8260
1,1,2-Trichloroethane	< 25.0	ug/kg	7/ 5/96	8260
4-Methyl-2-Pentanone	< 100	ug/kg	7/ 5/96	8260
Tetrachloroethene	< 25.0	ug/kg	7/ 5/96	8260
Dibromochloromethane	< 25.0	ug/kg	7/ 5/96	8260
Chlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
Ethylbenzene	< 25.0	ug/kg	7/ 5/96	8260
Total Xylenes	< 25.0	ug/kg	7/ 5/96	8260
Styrene	< 25.0	ug/kg	7/ 5/96	8260
Bromoform	< 25.0	ug/kg	7/ 5/96	8260
1,1,2,2-Tetrachloroethane	< 25.0	ug/kg	7/ 5/96	8260
1,3-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
1,4-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
1,2-Dichlorobenzene	< 25.0	ug/kg	7/ 5/96	8260
BNA Results:				
Phenol	< 100	ug/kg	6/27/96	8270
bis(-2-Chloroethyl)Ether	< 100	ug/kg	6/27/96	8270
2-Chlorophenol	< 250	ug/kg	6/27/96	8270
1,3-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
1,4-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
N-nitrosodimethylamine	< 100	ug/kg	6/27/96	8270
1,2-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
2-Methylphenol	< 100	ug/kg	6/27/96	8270
bis(2-Chloroisopropyl)Eth	< 100	ug/kg	6/27/96	8270
4-Methylphenol	< 100	ug/kg	6/27/96	8270
N-Nitro-Di-n-Propylamine	< 100	ug/kg	6/27/96	8270
Hexachloroethane	< 100	ug/kg	6/27/96	8270
Nitrobenzene	< 100	ug/kg	6/27/96	8270
Isophorone	< 100	ug/kg	6/27/96	8270
2-Nitrophenol	< 100	ug/kg	6/27/96	8270
2,4-Dimethylphenol	< 100	ug/kg	6/27/96	8270
Benzoic Acid	< 100	ug/kg	6/27/96	8270
bis(2-Chloroethoxy)Methan	< 100	ug/kg	6/27/96	8270
2,4-Dichlorophenol	< 100	ug/kg	6/27/96	8270
1,2,4-Trichlorobenzene	< 100	ug/kg	6/27/96	8270
Naphthalene	< 100	ug/kg	6/27/96	8270
4-Chloroaniline	< 250	ug/kg	6/27/96	8270
Hexachlorobutadiene	< 100	ug/kg	6/27/96	8270
4-Chloro-3-Methylphenol	< 250	ug/kg	6/27/96	8270
2-Methylnaphthalene	< 100	ug/kg	6/27/96	8270
Hexachlorocyclopentadiene	< 100	ug/kg	6/27/96	8270
2,4,6-Trichlorophenol	< 100	ug/kg	6/27/96	8270
2,4,5-Trichlorophenol	< 250	ug/kg	6/27/96	8270
2-Chloronaphthalene	< 100	ug/kg	6/27/96	8270
2-Nitroaniline	< 250	ug/kg	6/27/96	8270

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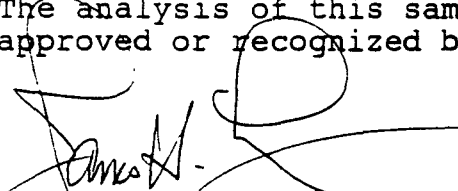
Lab Number: 96-D1303

Sample Number: 96-1826

July 16, 1996

Analysis Performed	Results	Unit	Analyzed	Method
Dimethylphthalate	< 100	ug/kg	6/27/96	8270
Acenaphthylene	< 100	ug/kg	6/27/96	8270
2,6-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
3-Nitroaniline	< 250	ug/kg	6/27/96	8270
Acenaphthene	< 100	ug/kg	6/27/96	8270
2,4-Dinitrophenol	< 250	ug/kg	6/27/96	8270
4-Nitrophenol	< 250	ug/kg	6/27/96	8270
Dibenzofuran	< 100	ug/kg	6/27/96	8270
2,4-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
Diethylphthalate	< 100	ug/kg	6/27/96	8270
4-Chlorophenyl-phenylether	< 100	ug/kg	6/27/96	8270
Fluorene	< 100	ug/kg	6/27/96	8270
4-Nitroaniline	< 250	ug/kg	6/27/96	8270
4,6-Dinitro-2-Methylpheno	< 250	ug/kg	6/27/96	8270
N-Nitrosodiphenylamine	< 100	ug/kg	6/27/96	8270
4-Bromophenyl-phenylether	< 100	ug/kg	6/27/96	8270
Hexachlorobenzene	< 100	ug/kg	6/27/96	8270
Pentachlorophenol	< 250	ug/kg	6/27/96	8270
Phenanthrene	< 100	ug/kg	6/27/96	8270
Anthracene	< 100	ug/kg	6/27/96	8270
Di-n-Butylphthalate	100	ug/kg	6/27/96	8270
Fluoranthene	< 100	ug/kg	6/27/96	8270
Pyrene	< 100	ug/kg	6/27/96	8270
Butylbenzylphthalate	< 100	ug/kg	6/27/96	8270
3-3'-Dichlorobenzidine	< 250	ug/kg	6/27/96	8270
Benzo(a)anthracene	< 100	ug/kg	6/27/96	8270
Chrysene	< 100	ug/kg	6/27/96	8270
bis(2-ethylhexyl)phthalat	< 100	ug/kg	6/27/96	8270
Di-n-Octylphthalate	< 100	ug/kg	6/27/96	8270
Benzo(b)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(k)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(a)pyrene	< 100	ug/kg	6/27/96	8270
Indeno(1,2,3-cd)pyrene	< 100	ug/kg	6/27/96	8270
Dibenz(a,h)anthracene	< 100	ug/kg	6/27/96	8270
Benzo(g,h,i)perylene	< 100	ug/kg	6/27/96	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.


James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: KATHY FLIPPIN, HWP

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

McClintock Governor • David A. Shott Director
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 96-1827
Lab Number: 96-D1304

Reported To: JOE BOLAND
Affiliation: ESP
Project Code: 3531/3000

Report Date: 7/16/96
Date Collected: 5/21/96
Date Received: 5/23/96

Sample Collected by: JOE BOLAND, ESP
Sampling Location: SKF FOUNDRY, ST. LOUIS, MO
Sample Description: GRAB, SOIL FROM FORMER DRUM STORAGE
AREA, SOUTHWEST CORNER OF BUILDING
1-2'

Analysis Performed	Results		Analyzed	Method
Cyanide in Soil	< 250	ug/kg	6/ 5/96	9010
Comment: Analyzed by EMSL				
VOA Results:				
Chloromethane	< 25.0	ug/kg	7/ 8/96	8260
Vinyl Chloride	< 25.0	ug/kg	7/ 8/96	8260
Bromomethane	< 25.0	ug/kg	7/ 8/96	8260
Chloroethane	< 25.0	ug/kg	7/ 8/96	8260
1,1-Dichloroethene	< 25.0	ug/kg	7/ 8/96	8260
Acetone	< 100	ug/kg	7/ 8/96	8260
Carbon Disulfide	< 25.0	ug/kg	7/ 8/96	8260
Methylene Chloride	< 25.0	ug/kg	7/ 8/96	8260
Methyl Tertiary Butyl Eth	< 25.0	ug/kg	7/ 8/96	8260
trans-1,2-Dichloroethene	< 25.0	ug/kg	7/ 8/96	8260
1,1-Dichloroethane	< 25.0	ug/kg	7/ 8/96	8260
2-Butanone	< 100	ug/kg	7/ 8/96	8260
cis-1,2-Dichloroethene	< 25.0	ug/kg	7/ 8/96	8260
Chloroform	< 25.0	ug/kg	7/ 8/96	8260
1,1,1-Trichloroethane	< 25.0	ug/kg	7/ 8/96	8260
Carbon Tetrachloride	< 25.0	ug/kg	7/ 8/96	8260
Benzene	< 25.0	ug/kg	7/ 8/96	8260
1,2-Dichloroethane	< 25.0	ug/kg	7/ 8/96	8260
Trichloroethene	< 25.0	ug/kg	7/ 8/96	8260
1,2-Dichloropropane	< 25.0	ug/kg	7/ 8/96	8260
Bromodichloromethane	< 25.0	ug/kg	7/ 8/96	8260

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Lab Number: 96-D1304

Sample Number: 96-1827

July 16, 1996

Analysis Performed	Results		Analyzed	Method
2-Hexanone	< 100	ug/kg	7/ 8/96	8260
Trans-1,3-Dichloropropene	< 25.0	ug/kg	7/ 8/96	8260
Toluene	< 25.0	ug/kg	7/ 8/96	8260
CIS-1,3-Dichloropropene	< 25.0	ug/kg	7/ 8/96	8260
1,1,2-Trichloroethane	< 25.0	ug/kg	7/ 8/96	8260
4-Methyl-2-Pentanone	< 100	ug/kg	7/ 8/96	8260
Tetrachloroethene	Not Analyzed		7/ 8/96	8260
Dibromochloromethane	< 25.0	ug/kg	7/ 8/96	8260
Chlorobenzene	< 25.0	ug/kg	7/ 8/96	8260
Ethylbenzene	< 25.0	ug/kg	7/ 8/96	8260
Total Xylenes	< 25.0	ug/kg	7/ 8/96	8260
Styrene	< 25.0	ug/kg	7/ 8/96	8260
Bromoform	< 25.0	ug/kg	7/ 8/96	8260
1,1,2,2-Tetrachloroethane	Not Analyzed		7/ 8/96	8260
1,3-Dichlorobenzene	< 25.0	ug/kg	7/ 8/96	8260
1,4-Dichlorobenzene	< 25.0	ug/kg	7/ 8/96	8260
1,2-Dichlorobenzene	< 25.0	ug/kg	7/ 8/96	8260
BNA Results:				
Phenol	< 100	ug/kg	6/27/96	8270
bis(-2-Chloroethyl)Ether	< 100	ug/kg	6/27/96	8270
2-Chlorophenol	< 250	ug/kg	6/27/96	8270
1,3-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
1,4-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
N-nitrosodimethylamine	< 100	ug/kg	6/27/96	8270
1,2-Dichlorobenzene	< 100	ug/kg	6/27/96	8270
2-Methylphenol	< 100	ug/kg	6/27/96	8270
bis(2-Chloroisopropyl)Eth	< 100	ug/kg	6/27/96	8270
4-Methylphenol	< 100	ug/kg	6/27/96	8270
N-Nitro-Di-n-Propylamine	< 100	ug/kg	6/27/96	8270
Hexachloroethane	< 100	ug/kg	6/27/96	8270
Nitrobenzene	< 100	ug/kg	6/27/96	8270
Isophorone	< 100	ug/kg	6/27/96	8270
2-Nitrophenol	< 100	ug/kg	6/27/96	8270
2,4-Dimethylphenol	< 100	ug/kg	6/27/96	8270
Benzoic Acid	< 100	ug/kg	6/27/96	8270
bis(2-Chloroethoxy)Methan	< 100	ug/kg	6/27/96	8270
2,4-Dichlorophenol	< 100	ug/kg	6/27/96	8270
1,2,4-Trichlorobenzene	< 100	ug/kg	6/27/96	8270
Naphthalene	< 100	ug/kg	6/27/96	8270
4-Chloroaniline	< 250	ug/kg	6/27/96	8270
Hexachlorobutadiene	< 100	ug/kg	6/27/96	8270
4-Chloro-3-Methylphenol	< 250	ug/kg	6/27/96	8270
2-Methylnaphthalene	< 100	ug/kg	6/27/96	8270
Hexachlorocyclopentadiene	< 100	ug/kg	6/27/96	8270
2,4,6-Trichlorophenol	< 100	ug/kg	6/27/96	8270
2,4,5-Trichlorophenol	< 250	ug/kg	6/27/96	8270
2-Chloronaphthalene	< 100	ug/kg	6/27/96	8270
2-Nitroaniline	< 250	ug/kg	6/27/96	8270

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Lab Number: 96-D1304

Sample Number: 96-1827

July 16, 1996

Analysis Performed	Results	Unit	Analyzed	Method
Dimethylphthalate	< 100	ug/kg	6/27/96	8270
Acenaphthylene	< 100	ug/kg	6/27/96	8270
2,6-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
3-Nitroaniline	< 250	ug/kg	6/27/96	8270
Acenaphthene	< 100	ug/kg	6/27/96	8270
2,4-Dinitrophenol	< 250	ug/kg	6/27/96	8270
4-Nitrophenol	< 250	ug/kg	6/27/96	8270
Dibenzofuran	< 100	ug/kg	6/27/96	8270
2,4-Dinitrotoluene	< 100	ug/kg	6/27/96	8270
Diethylphthalate	< 100	ug/kg	6/27/96	8270
4-Chlorophenyl-phenylether	< 100	ug/kg	6/27/96	8270
Fluorene	< 100	ug/kg	6/27/96	8270
4-Nitroaniline	< 250	ug/kg	6/27/96	8270
4,6-Dinitro-2-Methylpheno	< 250	ug/kg	6/27/96	8270
N-Nitrosodiphenylamine	< 100	ug/kg	6/27/96	8270
4-Bromophenyl-phenylether	< 100	ug/kg	6/27/96	8270
Hexachlorobenzene	< 100	ug/kg	6/27/96	8270
Pentachlorophenol	< 250	ug/kg	6/27/96	8270
Phenanthrene	< 100	ug/kg	6/27/96	8270
Anthracene	< 100	ug/kg	6/27/96	8270
Di-n-Butylphthalate	140	ug/kg	6/27/96	8270
Fluoranthene	< 100	ug/kg	6/27/96	8270
Pyrene	< 100	ug/kg	6/27/96	8270
Butylbenzylphthalate	< 100	ug/kg	6/27/96	8270
3-3'-Dichlorobenzidine	< 250	ug/kg	6/27/96	8270
Benzo(a)anthracene	< 100	ug/kg	6/27/96	8270
Chrysene	< 100	ug/kg	6/27/96	8270
bis(2-ethylhexyl)phthalat	< 100	ug/kg	6/27/96	8270
Di-n-Octylphthalate	< 100	ug/kg	6/27/96	8270
Benzo(b)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(k)fluoranthene	< 100	ug/kg	6/27/96	8270
Benzo(a)pyrene	< 100	ug/kg	6/27/96	8270
Indeno(1,2,3-cd)pyrene	< 100	ug/kg	6/27/96	8270
Dibenz(a,h)anthracene	< 100	ug/kg	6/27/96	8270
Benzo(g,h,i)perylene	< 100	ug/kg	6/27/96	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.


James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: KATHY FLIPPIN, HWP

APPENDIX C

ESP SAMPLING VISIT SAFETY PLAN

SAFETY OUTLINE

Site/Location: SKF Foundry

Page 1 of 1

County: St. Louis

Date Prepared: 5/20/96 Date Used: 5/21/96

- | | | | |
|-----------------|-------------------|------------|----------|
| | | Initials | Initials |
| 1. Prepared by: | <u>Joe Boland</u> | <u>JKB</u> | _____ |
| for: | _____ | _____ | _____ |
| | _____ | _____ | _____ |
2. **Purpose of Activity and Procedures:** To collect environmental samples for analysis which will be used in the RCRA Facility Assessment process.
3. **Material(s):** Soils.
4. **Possible Hazards:** Contact with corrosive materials, volatile organic compounds and heavy metals. Heat stress. Physical injuries associated slip, trip and fall.
5. **Personnel Monitoring:** All sampling personnel will be involved in a medical monitoring program and will be current.
6. **Site Monitoring:** Due to the low concentrations of the contaminants of concern, air monitoring in the breathing zone will not be necessary.
7. **Protective Level:** A B C D
8. **Protective Gear:**
- | | | | |
|--------------------------|----------|------------------------|----------|
| Steel toed rubber boots | <u>X</u> | gloves, nitrile, inner | <u>X</u> |
| gloves, nitrile, outer | <u>X</u> | Hard-hat | <u>X</u> |
| Air Purifying Respirator | _____ | Safety glasses | <u>X</u> |
| Heavy duty coveralls | <u>X</u> | Tyvek | _____ |

Upgrading the protective level may be necessary based upon actual field conditions experienced.

9. **Decontamination Procedures:** Personnel will utilize boots, gloves, safety glasses and protective clothing during sampling. Personnel will wash hands upon departing the site and properly containerize and dispose of any spent PPE, or equipment.
10. **Precautions, Site Control, Emergency Exit:** The majority of the sample collection will be outdoors. Soil sample collection will be conducted in protective level D.

11. Hospital Location: Jewish Hospital
216 S. Kingshighway
St. Louis, MO

12. Phone Numbers: Hospital (314) 454-7000 Ambulance 911
Police 911 Fire Dept 911 Poison Control 911

APPENDIX D

SAMPLING VISIT LOGBOOK NOTES

5/21/96 Former SKF Foundry

Myself, Alan Reinkensperger, Fred Marmash - MDNR

Sunny, 90-95° winds slight-variable

Geoprobe was used for subsurface soil samples

Sample 96-1823 was a soil trip blank

Sample 96-1824 was a soil field blank opened for 5 minutes in the work area.

Sample 96-1825 was collected from beneath concrete pad of former drum storage area. Brown and gray silty clay. 1-2' deep.

Sample 96-1826 was a duplicate of 96-1825

Sample 96-1827 was collected from beneath concrete pad of former drum storage area at southeast corner of bldg for 1-2' deep. Brown & gray mottled clay.